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**SEVENTY-NINTH ANNUAL REPORT**  
**OF THE**  
**DIVISION OF MINE**  
**INSPECTION**

**OF THE**  
**Department of Labor and Industrial Relations**

**1966**

**STATE OF MISSOURI**



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JEFFERSON CITY, MISSOURI

**DON DAVIS**  
*Director*

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WARREN E. HEARNES  
*Governor*

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**PERSONNEL OF DIVISION OF  
MINE INSPECTION**

---

DON DAVIS.....Director  
Jefferson City

SARAH SCHELL.....Secretary  
Jefferson City

---

**LEAD AND ZINC MINE INSPECTOR**

PAUL M. HAMMOND.....Leadwood

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**COAL AND CLAY MINE INSPECTOR**

MERICO CONTRATTO.....Macon

## LETTER OF TRANSMITTAL

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*Jefferson City, Missouri  
May 1, 1967*

*Honorable Warren E. Hearnes,  
Governor of Missouri,  
Jefferson City, Missouri*

*Dear Governor Hearnes:*

*I hereby submit to you the Seventy-ninth Annual Report of the Division of Mine Inspection, Department of Labor and Industrial Relations. This Report covers the work done by this Department in compliance with Section 293.090, Missouri Revised Statutes 1959.*

*Respectfully submitted,*

*DON DAVIS, Director  
Division of Mine Inspection*



## FOREWORD

---

The total value of Mineral Production in the State of Missouri in 1966 is estimated at 222.8 Million Dollars. Missouri had an increase in production in Coal, Copper, Granite, Iron and Silica Sand in the year 1966.

Construction work at the seven new mines in Southeast Missouri is progressing about as scheduled. Production at the Fletcher Mine, owned by St. Joseph Lead Company in Reynolds County was started February 20. Their production will be about 60,000 tons of Lead per year. Ozark Lead Company, Ellington, Missouri in Reynolds County will go into production late in 1967 or early 1968. Missouri Lead Company, Buick, Missouri in Iron County is scheduled to go into production in April of 1968. Cominco American Incorporated, Bixby, Missouri in Iron County is scheduled to go into production late in 1967 or 1968. Goose Creek Mine belonging to St. Joseph Lead Company, located in Washington County is scheduled to go into production in 1968. Bunker Hill Mine, Fredricktown, Missouri in Perry County is scheduled to go into production in the latter part of 1968.

The above companies will be producing Lead, Zinc, some Copper and probably a small amount of Silver. When the above companies all go into production it will increase the above Minerals in the State of Missouri over 150 per cent.

A new Smelter is being constructed at Bixby, Missouri to take care of Cominco American Incorporated ore and also Missouri Lead Company's ore. A new Smelter is also being constructed at Glover, Missouri to take care of the ore of Ozark Lead Company. These two new Smelters are the first lead Smelters to be constructed in the United States in over forty years.

Pilot Knob Pellet Company, Ironton, Missouri in Iron County will go into production late in 1967 or late 1968. Production is estimated at one million tons of Iron Pellets per year. When this company goes into production it will increase Iron production by almost fifty per cent.

Coal production in Missouri showed an increase in production in 1966 and should show a larger increase in 1967, as the new Thomas Hill Generating Plant started into production in December in 1966. They will install another new generator in 1967 and should use over one million tons of coal a year. Plans to construct a twenty-five million dollar generating plant in Jasper County by Empire District Electric Company are now completed and construction of this new



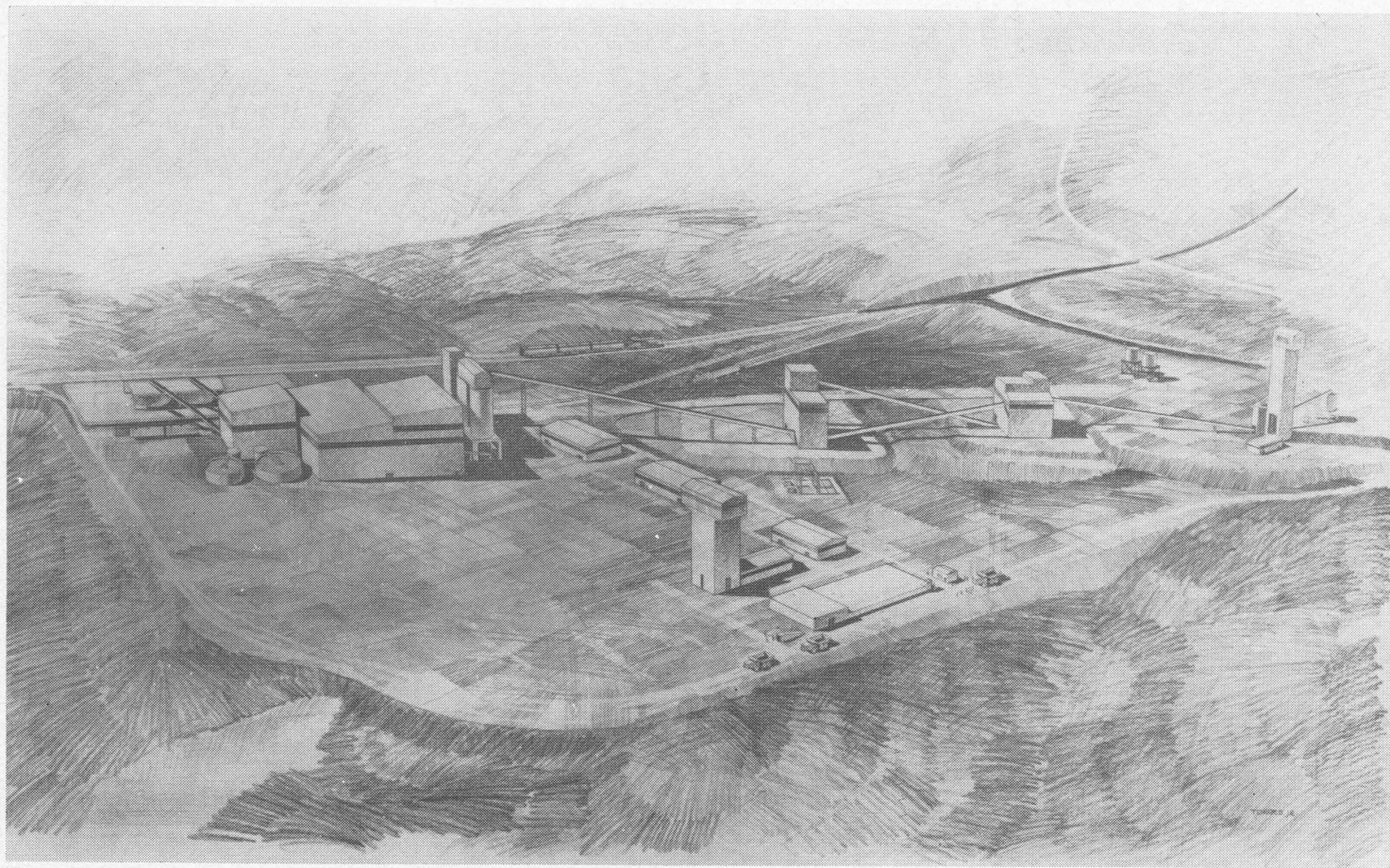
plant will start in 1967. This new plant will have a capacity of 200,000 Kilowatts. The coal bed is near the plant. Coal will be furnished by Midway Coal Mining Company. It will be delivered directly to the furnace by conveyor belts. This plant should use approximately 750,000 tons of coal per year when they go into production.

Granite (felsite) increased 400 per cent in 1966, this was due to the new Ruberoid Company at Annapolis. This production should remain about the same.

We see nothing in the Mineral Industry of this State but a bright future. We think that practically all Minerals will continue to increase and the impact on our economy will be terrific with the expansion of jobs their will be a great need for housing and all other commodities to be used in accommodating the demands of these new mining communities.



St. Joseph Lead Company's new Front End Loader now in use at Number 27, Viburnum Mine. This shovel, known as a "Scoop-Tram" has a 5-yard dipper and is as mobile as the trucks it loads.

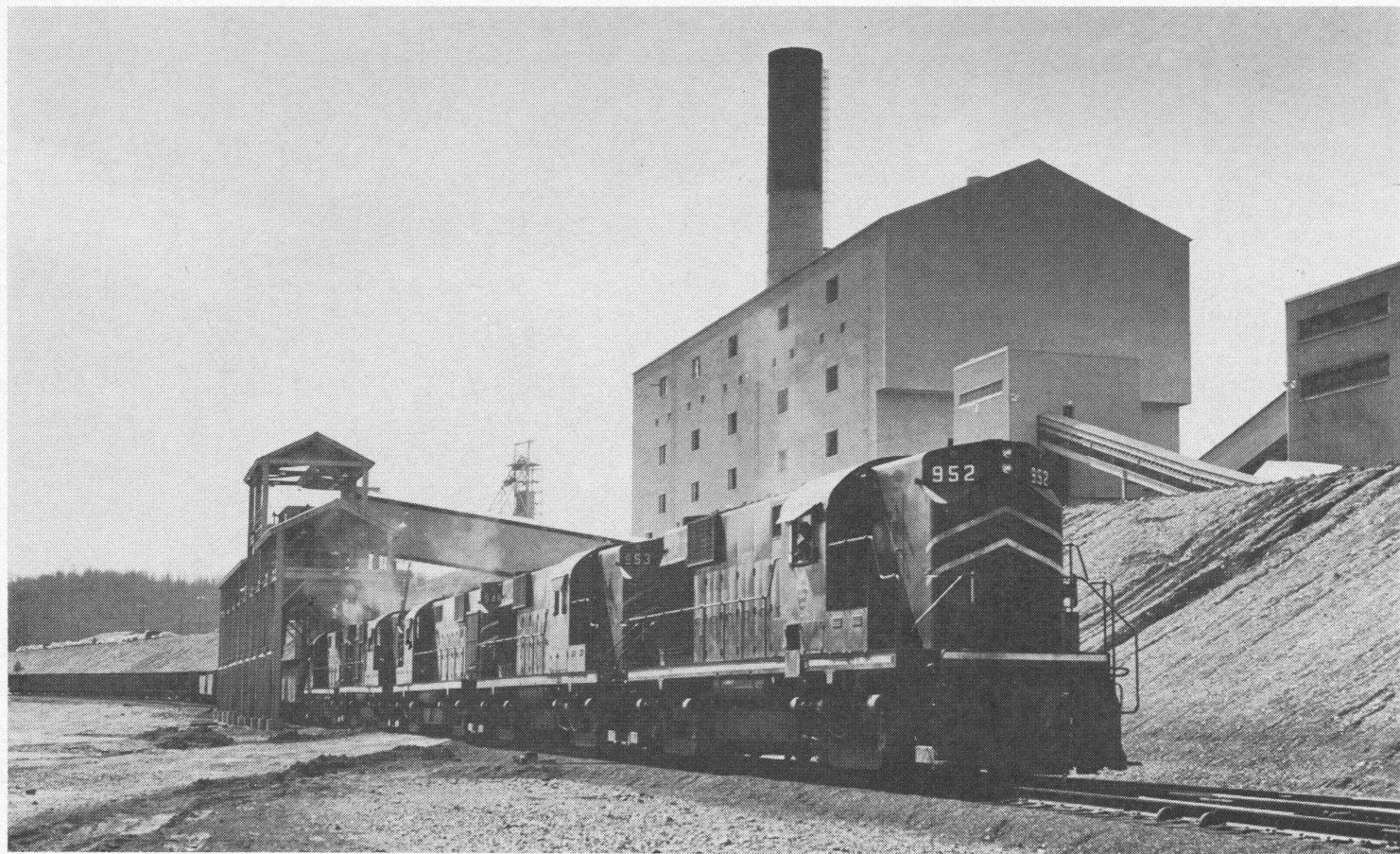


Missouri Lead Operating Company, Buick, Missouri will go into production within the next year.



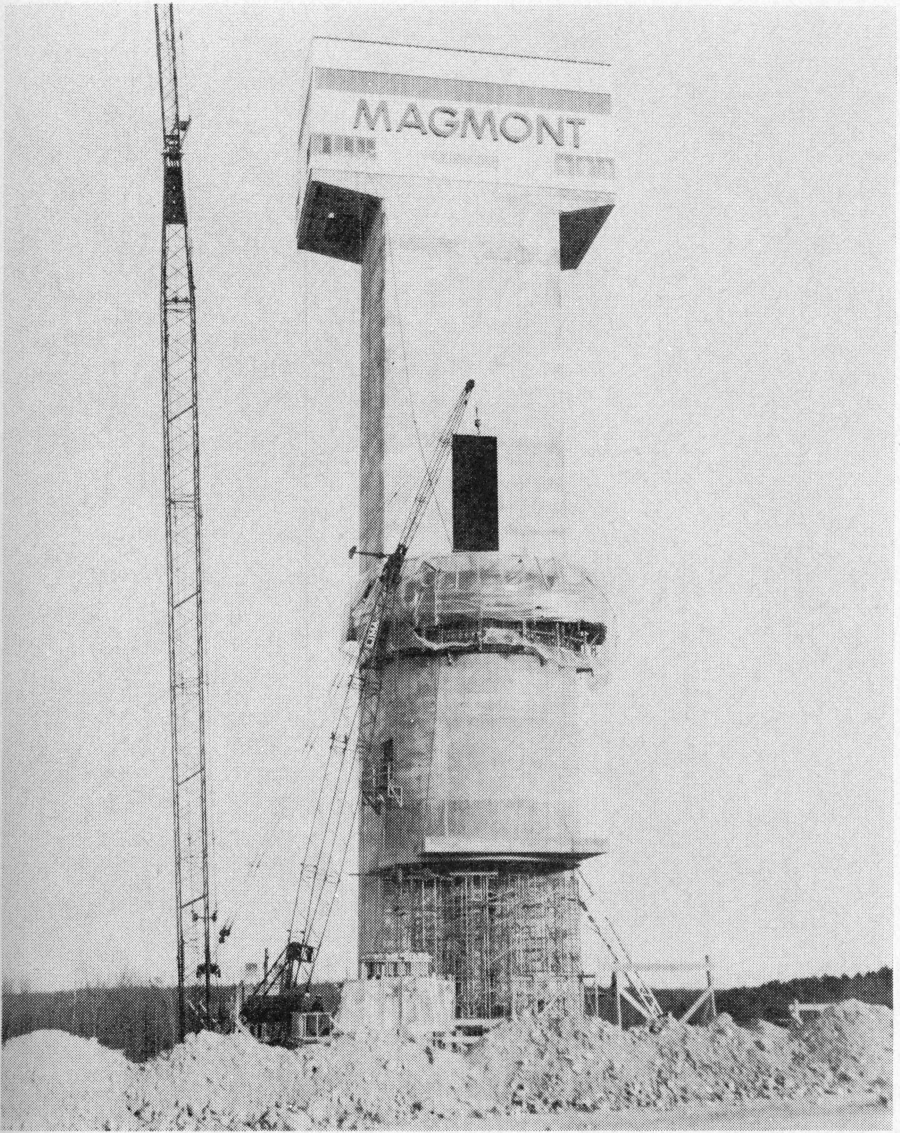


Hanna Mining Company—Pilot Knob Pellet Company.

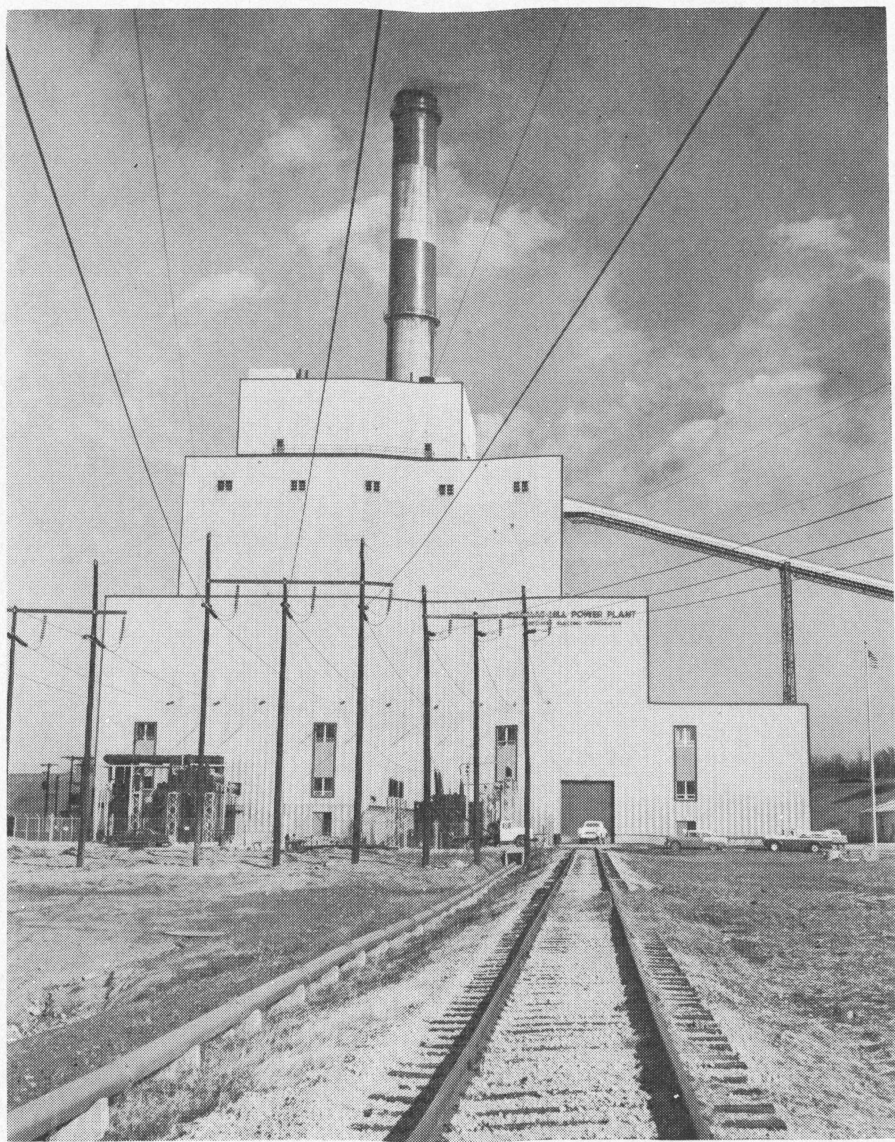


Meramec Mining Company—an Ore Train loading pellets for shipment.

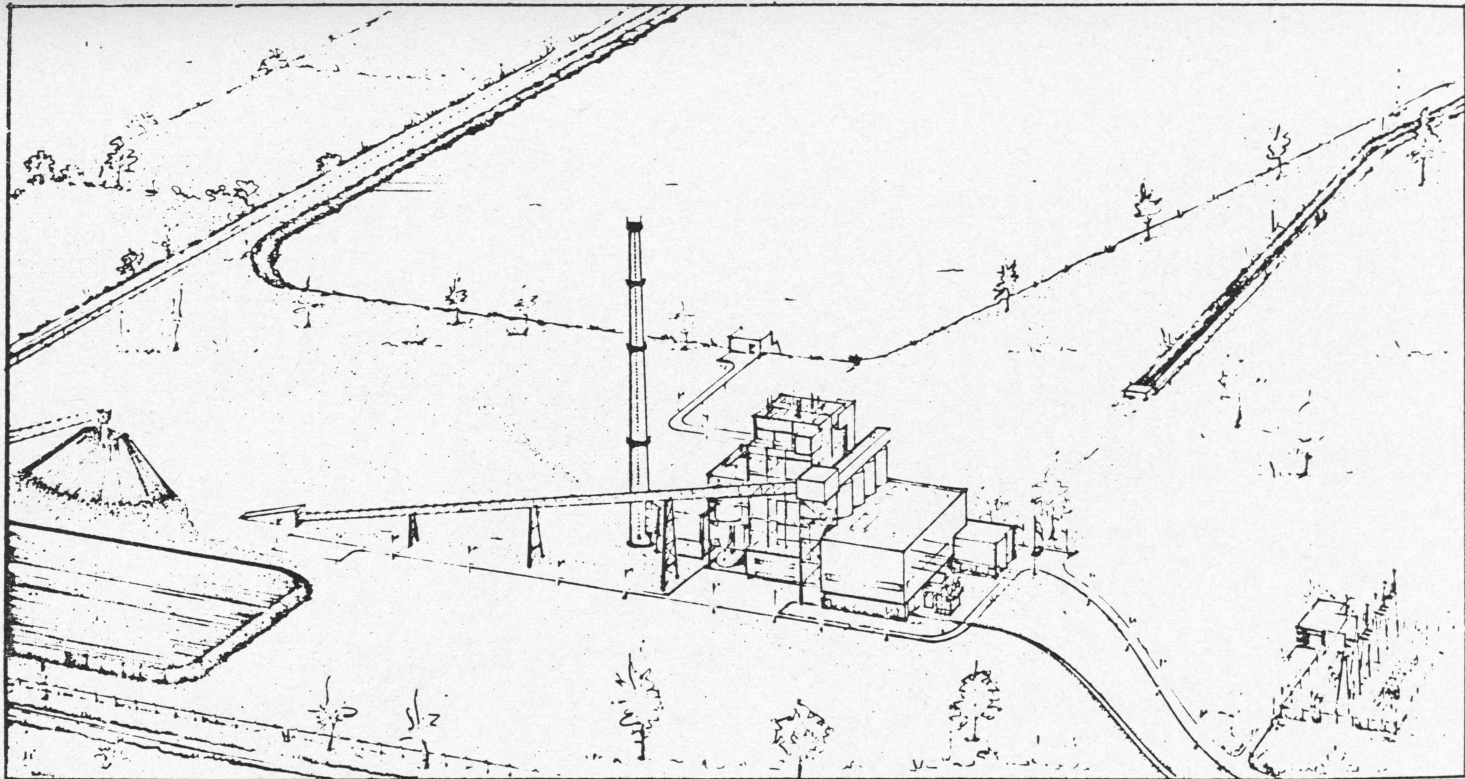




The above picture is a headframe at Cominco American—machinery deck is 160 feet above ground.

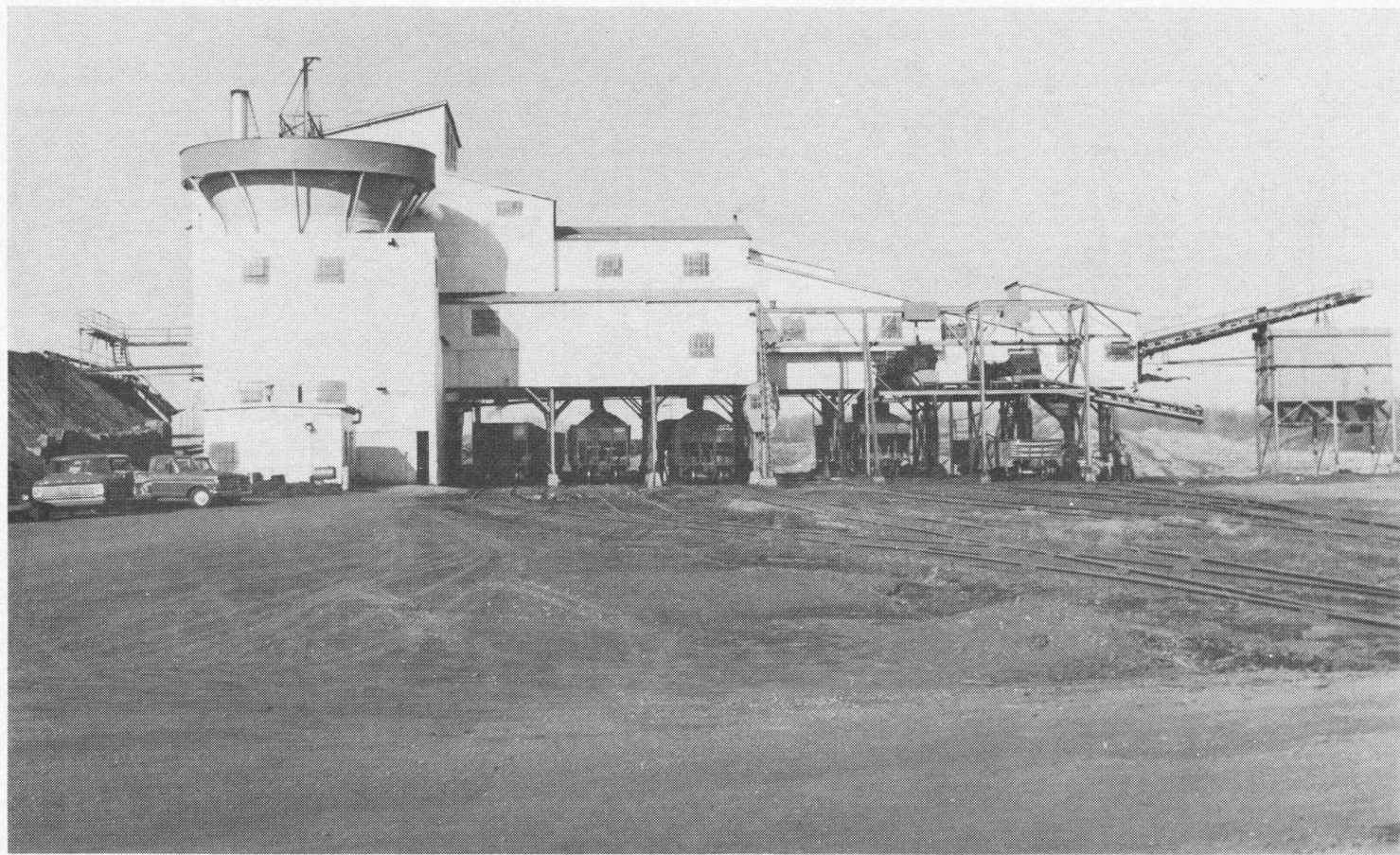


The Associated Electric Cooperative Power Plant at Thomas Hill, Missouri  
View from the south.



Architect's sketch of The Proposed 200,000-kilowatt Generating Plant of The Empire District Electric Company to be erected near Asbury, Missouri.





The Peabody Mine Tipple, Macon County, Missouri.

## MISSOURI MINERAL PRODUCTION

The table below shows our 1966 Mineral Production and Number of Men Employed compared to 1965. Included are minerals that come under Missouri Mine Inspection Laws.

KIND OF MINE	MEN EMPLOYED		TONS PRODUCED	
	1965	1966	1965	1966
Clay .....	209	148	1,675,702	1,599,576
Coal .....	467	369	3,584,812	3,623,703
Copper .....	*	*	8,684	14,116
Granite (Red) .....	42	30	19,035†	18,278†
Granite (Felsite) .....	65	43	20,380	87,853
Iron .....	1,108	998	2,048,349	2,123,860
Lead .....	1,282	1,316	186,367	185,397
Shale .....	89	79	696,353	522,750
Silica Sand .....	87	93	960,088	1,019,997
Zinc .....	*	*	8,792	8,459

\*Included with Lead.

†Cubic feet.



## CLAY

Clay production in Missouri for 1966 showed a decrease of 76,126 tons compared to production in 1965.

The leading producers of Clay in 1966 were the following:

Name of Operator	Tons Produced
A. P. Green Fire Brick Co.....	318,676
Harbison-Walker Refractories Co.....	178,581
Marquette Cement Co.....	142,826
Thomas Mining Co.....	139,450
Holland Trust Co.....	89,344
Kaiser Refractories, Division of Kaiser Aluminum and Chemical Division.....	89,144

Following is the record of Clay production for the past ten years:

1957.....	2,431,899 Tons
1958.....	1,892,164 Tons
1959.....	2,327,796 Tons
1960.....	2,438,224 Tons
1961.....	1,882,598 Tons
1962.....	1,560,092 Tons
1963.....	1,215,554 Tons
1964.....	1,241,493 Tons
1965.....	1,675,702 Tons
1966.....	1,599,576 Tons

TABLE NO. 1—CLAY

Name of Operator	Address	Location of Mine—County	Capital Stock	Investment—Land and Plant	Shipping Facilities
Acme Brick Co.....	Fort Worth, Tex.....	Jefferson and Cass.....	\$167,178.91	\$167,178.91	Flat-Bed Truck
Allied Chemical Corp., General Chemical Division.....	Morristown, N. J.....	Gasconade.....			Truck and Railroad
Alpha Portland Cement Co.....	St. Louis, Mo.....	St. Louis.....	\$18,439,130.00	\$4,696,910.00	Truck
Alton Brick Co.....	St. Louis, Mo.....	St. Louis.....			
Branson Mining Co.....	Owensville, Mo.....	Gasconade.....			
A. B. Carter.....	New Florence, Mo.....	Montgomery.....			Truck
Columbia Brick and Tile Co.....	Columbia, Mo.....	Boone.....	\$100,000.00		Flat-Bed Truck
Mr. John Francis.....	Belle, Mo.....	Gasconade and Phelps.....			Truck and Railroad
General Refractories Co.....	Brentwood, Mo.....	Montgomery, Audrain and St. Charles.....	\$3,779,264.00	\$224,483.05	Railroad
Joe Gilliam Mining Co.....	Paris, Mo.....	Monroe.....			Truck and Railroad
A. P. Green Fire Brick Co.....	Mexico, Mo.....	Gasconade, Osage, Phelps and Audrain.....	\$9,893,305.00	\$17,532,787.00	
Mr. James Hampton.....	Owensville, Mo.....	Gasconade and Audrain.....			Truck
Harbison-Walker Refractories Co.....	Pittsburgh, Pa.....	Audrain, Maries, Warren, Lincoln, Callaway.....	\$24,890,515.00	\$150,000.00	Railroad and Truck
Elton Hensley Mining Co.....	Fulton, Mo.....	Audrain.....	\$50,000.00		Truck
Holland Trust Co.....	Fulton, Mo.....				Truck and Railroad
Mr. Forest Johnson.....	New Florence, Mo.....	Montgomery, Audrain.....	\$126,350.00		Truck
Kaiser Refractories, Division of Kaiser Aluminum & Chemical Corp.....	Mexico, Mo.....	Audrain.....		Approximately \$5,000,000.00	Truck
Kasten Clay Products.....	Jackson, Mo.....	Cape Girardeau.....	\$330,600.00	\$60,765.20	None
Langenberg Mining Co.....	New Haven, Mo.....	Gasconade.....	\$35,000.00		Railroad
Mantle Mining Co.....	Linn, Mo.....	Gasconade.....			Trucks
Marquette Cement Mfg. Co.....	Chicago, Ill.....	Cape Girardeau.....			
Mr. Leonard Moss.....	Owensville, Mo.....	Gasconade.....			

TABLE NO. 1—CLAY—Continued

Name of Operator	Address	Location of Mine—County	Capital Stock	Investment— Land and Plant	Shipping Facilities
H. K. Porter Co., Inc.	St. Louis, Mo.	Various Counties			
H. C. Ridenhour	Belle, Mo.	Gasconade			Truck and Railroad
River Cement Company	St. Louis, Mo.	Jefferson County		\$25,000.00	None
H. A. Sassman	Owensville, Mo.	Maries and Gasconade			Truck
Thomas Mining Co.	St. Louis, Mo.	St. Louis and St. Charles	\$2,000.00		
Wehmeyer Mining Co.	Rosebud, Mo.	Gasconade			
Wilcoxon and Long			\$25,000.00	\$2,500.00	Truck
A. D. Willis & Son Industries	Poplar Bluff, Mo.	Butler and Stoddard		\$7,000.00	Truck
Milton Zimmerman	New Florence, Mo.	Montgomery			Truck
Ralph Zimmerman	New Florence, Mo.	Montgomery			Truck

TABLE NO. 2—CLAY

Name of Operator	Kind of Opening	Acres Controlled		Depth of Working Level, Feet	Kind of Clay Mined	Power Used	Ventilation
		Owned	Leased				
Acme Brick Co.....	Open Pit	170		20 to 30		Electric and Diesel	Open
Allied Chemical Corp., General Chemical Div...	Open Pit	1298.594	84.765	30	Flint	L. P. Gas	Natural
Alpha Portland Cement.....	Open Pit	1,415				Gas and Electric	
Alton Brick Co.....	Open Pit	71		60		Diesel	Natural
Branson Mining Co.....	Open Pit						
A. B. Carter.....	Open Pit		50	55 to 60		Truck	Natural
Columbia Brick and Tile.....	Open Pit	96		8 to 18		Gas Shovel	Natural
John Francis.....	Open Pit	4	1	40	Diaspore, Burley and Flint	Gasoline	Natural
General Refractories.....	Open Pit	612.7	1,422	60	Flint	Power Shovel, Trucks	Natural
Joe Gilliam Mining Co.....	Open Pit	360		60		Gas and Diesel	
A. P. Greene Fire Brick Co.....	Open Pit	8,368	13,046		Burley, Diaspore, Flint, (Plastic)		Natural
James R. Hampton.....	Open Pit			25	Flint	Gas Shovel	
Harbison-Walker Refractories.....	Open Pit	11,994	13,646		Diaspore, Flint	Electric, Oil, Gas	
Elton Hensley Mining Co.....	Open Pit			25	Flint	Diesel	Natural
Holland Trust.....	Open Pit			6 to 20		Diesel	
Forest Johnson.....	Open Pit			20 to 70		Gas and Diesel	Natural
Kaiser Refractories.....	Open Pit	4,000				Heavy Equipment	Natural
Kasten Clay Products, Inc.....	Open Pit	130		Slope		Diesel and Gas	Natural
Langenberg Mining Co.....	Open Pit	278	800	40	Burley, Flint	Gas and Diesel	Natural
Mantle Mining Co.....	Open Pit	2					Natural
Marquette Cement Co.....	Open Pit						
Leonard Moss.....	Open Pit						
H. K. Porter, Inc.....	Open Pit						



TABLE NO. 2—CLAY—Continued

Name of Operator	Kind of Opening	Acres Controlled		Depth of Working Level, Feet	Kind of Clay Mined	Power Used	Ventilation
		Owned	Leased				
H. C. Ridenhour.....	Open Pit	3		65	Burley, Diaspore and Flint.....	Gas and Diesel.....	Natural
H. A. Sassman.....	Open Pit			30	Flint.....	Diesel.....	Natural
Thomas Mining Co.....	Open Pit	29	116			Gas and Diesel.....	
Wehmeyer Mining Co.....	Open Pit						
Wilcoxon and Long.....	Open Pit	40		20	Flint, Semi.....	Gasoline.....	
A. D. Willis & Son Industries.....	Open Pit	8½		5 to 30		Gas and Engine.....	Natural
Milton Zimmerman.....	Open Pit		50	60		Gas and Diesel.....	Natural
Ralph Zimmerman.....	Open Pit		160	40		Gas.....	Natural
River Cement Co.....	Open Pit	50		Surface		Electric.....	Natural



TABLE NO. 3—CLAY

Name of Operator	Number of Men Employed	Number of Days Worked	Average Wage Per Day	Tons of Clay Mined	Value Per Ton	Total Value of Clay Mined	Value of Manufactured Product
Acme Brick Co.....	3	260	\$16.00	14,184	\$1.00	\$14,184.00	\$876,200.57
Allied Chemical Corp.—General Chemical Division.....	5	172	22.08	86,575	1.85	160,164.00	
Alpha Portland Cement.....	2	121	22.00	38,968	1.43	55,599.23	5,886,425.55
Alton Brick Co.....	2	300	20.00	9,989			2,000,000.00
Bethel Bros.....							
Branson Mining Co.....				6,241			
A. B. Carter .....	2 to 5	6 Mo. a Year		17,044.25	1.50	25,566.38	
Columbia Brick and Tile.....	36	150	1.92 Hr.	3,273			
John Francis.....	5	250	15.25	19,260.08			
General Refractories.....	3 to 12	253	21.31	14,822	1.594		
Joe Gilliam Mining Co.....	6			56,464			
A. P. Green Fire Brick Co.....	14	254		318,676.11	21.40	\$6,755,665.00	10,034,542.00
J. R. Hampton.....	2	120	14.00	10,644	1.25		
Harbison-Walker.....	19	253	24.50	178,581	22.50	4,088,930.00	
Elton Hensley.....	2	200	20.00	43,213.79	1.38	59,762.80	
Holland Trust.....	4	200	20.00	69,344	1.85		
Forest Johnson.....	9	250	22.00	63,329.53	1.65	104,493.72	
Kaiser Refractories.....	15			89,144	2.64	235,340.00	
Kasten Clay Products.....	1	70	20.00	18,997.4		5,968.98	358,375.92
Langenberg Mining Co.....	6	25	14.00		2.50		
Buel Mantle Mining Co.....	4	224	16.00	22,899			
Marquette Cement Co.....				142,826			
H. K. Porter.....				87,707			

TABLE NO. 3—CLAY—Continued

Name of Operator	Number of Men Employed	Number of Days Worked	Average Wage Per Day	Tons of Clay Mined	Value Per Ton	Total Value of Clay Mined	Value of Manufactured Product
H. C. Ridenhour.....	2	169	\$14.00	6,779.20			
H. A. Sassman.....	2	270	18.40	14,282.91	\$2.50	\$14,282.91	
Thomas Mining Co.....				139,450			
Wehmeyer Mining Co.....				13,966			
A. D. Willis and Sons.....		30 to 60		268.54	.50	134.27	\$4,774.32
Wilcoxon and Long.....		90		9,637	1.65	15,901.00	
Milton Zimmerman.....		130		5,264	1.50	7,896.45	
Ralph Zimmerman.....	2	75	15.00	7,252	1.50	11,606.00	

## COAL

---

Coal production for 1966 showed an increase of 38,891 tons compared to production for 1965. Coal should continue to show increases.

Following are the counties which led in coal production for 1966:

Henry .....	1,830,931
Macon .....	926,906
Boone .....	651,231
Putnam .....	98,224

The three leading coal producers for 1966 were:

Peabody Coal Co. ....	3,404,718
Kirkville Coal Co. ....	61,511
M. J. Nichols Coal Co. ....	49,332

The following counties employed the most men in the production of Coal in 1966:

Henry .....	127
Macon .....	92
Boone .....	53
Putnam .....	27

Following is the Coal Production Record for the past ten years:

1957 .....	2,978,162 Tons
1958 .....	2,521,192 Tons
1959 .....	2,753,103 Tons
1960 .....	2,893,919 Tons
1961 .....	2,942,481 Tons
1962 .....	2,920,369 Tons
1963 .....	3,180,975 Tons
1964 .....	3,265,390 Tons
1965 .....	3,584,812 Tons
1966 .....	3,623,703 Tons

TABLE NO. 3—COAL SHIPPING MINES

Name of Operator	Shipping Point	Shipped by Rail		Total Tons Produced	
		Railroad	Tons	Strip Mine	Slope or Shaft Mine
BOONE COUNTY					
Peabody Coal Co. (Mark Twain).....	Etta, Mo. ....	Nrofolk and Western .....	423,476	651,231	.....
HENRY COUNTY					
Peabody Coal Co. (Power).....	Mine .....	Company Owned Spur to Montrose Power Plant .....	1,425,342	1,425,342	.....
Peabody Coal Co. (Tebo) .....	Calhoun, Mo.....	Missouri-Kansas-Texas .....	396,727	401,239	.....
MACON COUNTY					
Peabody Coal Co. (Bee-Veer).....	Bevier, Mo. ....	Norfolk and Western .....	144,777	926,906	.....
		Bevier and Southern.....	693,245		
PUTNAM COUNTY					
Husted Bros. Coal Co.....	.....	Norfolk & Western .....	.....	31,185.13	.....
Putnam County Stone, Inc.....	Coatsville, Mo.....	Spur in Iowa—Norfolk & Western .....	1,856.45	2,089.77	.....
Kirkville Coal Co.....	Centerville	Rock Island .....	5,250	61,511	.....
VERNON COUNTY					
Nichols Coal Co.....	Rich Hill, Mo.....	Missouri Pacific .....	49,262	49,332	.....
Ellis Coal Co.....	Bronaugh, Mo.....	Missouri Pacific .....	10,772	12,050	.....



TABLE NO. 1—COAL—LOCAL TRADE OR TRUCK MINES

Name of Operator	Address	Acres Controlled		Investment— Land and Plant	Kind of Opening	Ventilation	Number of Air Shafts	Working Plan
		Owned	Leased					
BOONE COUNTY								
Peabody Coal Co. (Mark Twain).....	St. Louis, Mo.....		1,888	\$1,676,380.00	Open Pit	Natural	None	Electric
CALLAWAY COUNTY								
Clayton & Hensley.....	Fulton, Mo.....		700		Open Pit	Natural	None	
CLARK COUNTY								
Hamlin Bros. Coal Co.....	Farmington, Mo.....	40	140	20,000.00	Open Pit	Natural	None	
DADE COUNTY								
Tyler Coal Co.....	Jerico Springs, Mo.....	520		50,000.00	Open Pit	Natural	None	
HENRY COUNTY								
Peabody Coal Co. (Tebo).....	St. Louis, Mo.....		5,443	1,364,252.00	Open Pit	Natural	None	Electric
Madole Bros.....	Windsor, Mo.....		15		Open Pit	Natural	None	
HOWARD COUNTY								
Andrew Coal Co.....	Higbee, Mo.....							
MACON COUNTY								
Peabody Coal Co. (Bee-Veer).....	St. Louis, Mo.....		1,800	3,784,814.00	Open Pit	Natural	None	Electric

TABLE NO. 1—COAL—LOCAL TRADE OR TRUCK MINES—Continued

Name of Operator	Address	Acres Controlled		Investment— Land and Plant	Kind of Opening	Ventilation	Number of Air Shafts	Working Plan
		Owned	Leased					
PUTNAM COUNTY								
Putnam Stone Co.....	Unionville, Mo.....	603	600	\$100,000.00	Open Pit	Natural	None	
Husted Bros. Coal Co.....		468.49	480		Open Pit	Natural	None	
Cain and Trammel.....	Livonia, Mo.....		40		Shaft	Fan		Long Wall
Henry Clark Coal Co.....	Livonia, Mo.....	80		5,000.00	Slope	Fan	1	
RANDOLPH COUNTY								
Nejedley Coal Co.....	Huntsville, Mo.....	2				Fan	1	
VERNON COUNTY								
Nichols Coal Co.....	Bronaugh, Mo.....	140	1,000					
Ellis Coal Co.....	Bronaugh, Mo.....							
BARTON COUNTY								
Palmer Rock and Coal.....	Fort Scott, Kans.....		200					

**TABLE NO. 2—COAL—LOCAL TRADE OR TRUCK MINES**

Name of Operator	Depth of Working Level, Feet	Thickness of Coal Vein		Number of Men Employed	Average Wage Per Day	Days Operated	Tons Produced
		Feet	Inches				
BOONE COUNTY Peabody Coal Co. (Mark Twain).....	35	3		53	\$30.52	224	651,231
CALLAWAY COUNTY Clayton-Hensley.....	15	2	6	10	20.00	313	30,371
CLARK COUNTY Hamlin Bros. Coal Co.....		2	6	5	15.00		3,667
DADE COUNTY Tyler Coal Co.....	18	1	8	5	14.00	285	11,277
HENRY COUNTY Madole Bros.....	30	3	6	2	14.00	168	4,350
Peabody Coal Co. (Tebo).....	37	1	10	46	30.00	160	401,239
HOWARD COUNTY Andrews Mine.....							152
MACON COUNTY Peabody Coal Co. (Bee-Veer).....	69.5	2	9	92	30.76	247	926,906

TABLE NO. 2—COAL—LOCAL TRADE OR TRUCK MINES—Continued

Name of Operator	Depth of Working Level, Feet	Thickness of Coal Vein		Number of Men Employed	Average Wage Per Day	Days Operated	Tons Produced
		Feet	Inches				
PUTNAM COUNTY							
Henry Clark Coal Co.....	50	3		6	\$12.00	120	1,617
Putnam County Stone Co.....	20	3	6	18	20.00	24	2,089
Cain and Trammel.....	60	3	6	7	5.00	144	893
Haines & Vieths.....							929
Husted Bros. Coal Co.....	35	3		4	23.33	255	31,185
RANDOLPH COUNTY							
Nejedley Coal Co.....	70	4	2			64	292
VERNON COUNTY							
Nichols Coal Co.....	30	2	6	20	16.00	200	49,332
Ellis Coal Co.....	25 and Over	1	4	4	16.00	252	12,050
BARTON COUNTY							
Palmer Rock and Stone Co.....	20	1	6	18	18.00	285	9,270



**COAL PRODUCTION BY COUNTY**

County	Acres Owned	Acres Leased	Investment— Land and Plant	Men Employed	Tons Produced	Fatal Accidents
Barton.....		200		18	9,270	0
Boone.....		1,888	\$1,676,380.00	53	651,231	0
Callaway.....		700		10	30,371	0
Clark.....	40	140	20,000.00	5	3,667	0
Dade.....	520		50,000.00	5	11,277	0
Howard.....					152	0
Henry.....		13,664	1,364,252.00	127	1,830,931	0
Macon.....		1,800	3,784,814.00	92	926,906	1
Putnam.....	2,391	1,120	105,000.00	35	41,963	0
Randolph.....	2				292	0
St. Clair.....						0
Vernon.....	140	1,000		24	61,382	0

## LEAD, ZINC AND COPPER

Lead production in Missouri for 1966 showed a decrease of 969 tons compared to 1965. Zinc production showed a decrease of 333 tons compared to 1965. Copper showed an increase of 232 tons compared to 1965. All indications show at this time that there will be a sharp increase in these Minerals in 1967.

BELOW IS THE PRODUCTION RECORD OF LEAD, ZINC  
AND COPPER FOR THE PAST TEN YEARS

Year	Tons Lead Produced	Tons Zinc Produced	Tons Copper Produced
1957 .....	179,273	5,906	3,813
1958 .....	159,049	834	3,278
1959 .....	146,750	206	3,109
1960 .....	155,700	5,603	1,712
1961 .....	137,862	10,973	10,061
1962 .....	83,855	5,135	7,415
1963 .....	109,960	666	6,593
1964 .....	167,629	3,116	7,811
1965 .....	186,367	8,792	8,684
1966 .....	185,397	8,459	14,116

**TABLE NO. 1—LEAD, ZINC AND COPPER**

Name of Operator	Address	Name of Mine	Location, County	Capital Stock	Investment— Land and Plant
St. Joseph Lead Company.....	Bonne Terre, Mo. ....	St. Joseph Lead Co..	St. Francois, Iron, Washington and Crawford.....	\$44,962,670.00	\$44,092,350.99
Childress Royalty Company.....	Joplin, Mo.....	Hyde Park Mine....	Jasper.....		

**TABLE NO. 2—LEAD, ZINC AND COPPER**

Name of Operator	Acres Controlled		Number of Shafts In Use	Average Depth of Shafts, Feet	Ventilation	Capacity of Concentrating Plants, Tons	Kind of Pump	Capacity, Gallons Per Minute	Average Height of Ore Faces, Feet	Number of Ore Faces Worked
	Owned	Leased								
St. Joseph Lead Company.....	44,678 48,427	14,086	16	732	Natural & Mechanical.	2,000 - 5,000 7,500 - 12,000	Electric.....	30 to 10,000	11	353
Childress Royalty Company.....		182	2	215	Air Shaft.....		Pomona.....	1,500	6	

TABLE NO. 3—LEAD, ZINC AND COPPER

Name of Operator	Number of Men Employed	Average Wage Per Day	Days Operated	Tons of Rock Handled	Tons of Lead Produced	Value of Lead Ore	Tons of Zinc Produced	Value of Zinc Ore	Tons of Copper Produced	Value of Copper Ore	Value of Lead, Zinc and Copper
St. Joseph Lead Co.....	1,314	\$24.57	255	5,830,519	185,362	\$33,807,757.00	8,202	\$764,879.58	14,116	\$2,278,395.03	\$36,851,031.63
Childress Royalty Co.....	2	24.61	311	5,879	35	5,420.95	257	24,220.06	.....	.....	29,641.01

## GRANITE

Name of Operator	Address	Location of Mine— County	Number of Men Employed	Tons Produced	Value of Production
Heyward Granite Company .....	Graniteville, Mo.....	Iron	30	2,736	.....
The Ruberoid Company .....	Annapolis, Mo.....	Iron	43	87,853	.....



**IRON**

Iron production in Missouri for 1966 showed an increase of 75,517 tons compared to production in 1967.

**BELOW IS THE PRODUCTION RECORD OF IRON FOR THE  
PAST TEN YEARS**

Year	Tons Produced
1957.....	543,188
1958.....	352,325
1959.....	348,844
1960.....	355,496
1961.....	309,616
1962.....	353,458
1963.....	356,339
1964.....	1,219,604
1965.....	2,048,343
1966.....	2,123,860



## SHALE

The 1966 production of Shale showed a decrease of 173,603 tons compared to production for 1965.

### FOLLOWING IS THE PRODUCTION RECORD OF SHALE FOR THE PAST TEN YEARS

Year	Tons Produced
1957.....	523,891
1958.....	521,478
1959.....	605,313
1960.....	577,305
1961.....	520,426
1962.....	603,496
1963.....	676,486
1964.....	531,679
1965.....	696,353
1966.....	522,750

TABLE NO. 1—SHALE

Name of Operator	Address	Location of Mine—County	Products Manufactured	Kind of Opening	Ventilation
Acme Brick Co.....	Fort Worth, Tex.....	Jefferson and Cass.....	Brick and Tile.....	Open Pit...	Open
Alton Brick Co.....	St. Louis, Mo.....				
The Carter-Waters Corp.....	Kansas City, Mo.....	Platte.....	Haydite.....	Open Pit...	Natural
Columbia Brick and Tile Co.....	Columbia, Mo.....	Boone.....	Building Brick.....	Open Pit...	Natural
W. S. Dickey Clay Manufacturing Co.....	St. Louis, Mo.....	St. Louis.....	Clay Pipe.....	Open Pit...	Natural
Midland Brick & Tile Co.....	Chillicothe, Mo.....	Livingston.....	Brick and Tile.....	Open Pit...	Natural
Missouri Portland Cement Co.....	St. Louis, Mo.....	St. Louis, Mo.....	Portland Cement.....	Open Pit...	Natural
Thomas Mining Co.....	St. Louis, Mo.....	St. Louis and St. Charles.....		Open Pit...	
Universal Atlas Cement Co.....	New York, N. Y.....	Ralls.....	Portland Cement.....	Open Pit...	



TABLE NO. 2—SHALE

Name of Operator	Capital Stock	Acres Controlled		Number of Men Employed	Number of Days Operated	Average Wage Per Day	Tons Produced	Value	Value of Cement or Manufactured Products
		Owned	Leased						
Acme Brick Co.....	\$167,178.91	170	.....	3	260	\$16.00	47,141	\$47,141.00	\$876,200.57
Alton Brick Co.....		71	.....	2	300	20.00	109,428	.....	.....
The Carter-Waters Corp.....	3,300,000.00	98.67	.....	32	365	.....	96,330.50	621,188.00	.....
Columbia Brick and Tile Co.....	\$100,000.00	96	.....	36	150	15.36	16,235	.....	.....
W. S. Dickey Clay Manufacturing Co.....	3,890,368.00	20	.....	1	300	24.00	13,058.25	49,099.00	1,195,000.00
Midland Brick and Tile Co.....		100	.....	2	220	17.60	87,644	.....	1,072,536.06
Missouri Portland Cement Co.....	9,915,438.00	6,020	.....	3	250	25.00	123,533	58,627.00	23,874,531.00
Thomas Mining Co.....	2,000.00	29	116	.....	.....	.....	1,464	.....	.....
Universal Atlas Cement Co.....		.....	.....	.....	.....	.....	44,152	.....	.....

**SILICA SAND**

Missouri continues to be one of the leading producers of Silica Sand, with production in 1966 up 59,909 tons over 1965.

**BELOW IS THE PRODUCTION RECORD OF SILICA SAND  
FOR THE PAST TEN YEARS**

Year	Tons Produced
1957.....	827,942
1958.....	617,179
1959.....	781,998
1960.....	796,574
1961.....	693,018
1962.....	782,610
1963.....	838,064
1964.....	896,225
1965.....	960,088
1966.....	1,019,997

TABLE NO. 1—SILICA SAND

Name of Operator	Address	Location of Mine—County	President of Company	Kind of Opening	Acres Controlled		Value of Land and Equipment
					Owned	Leased	
Manley Sand Division, Martin Marietta Corp.....	Festus, Mo.....	Jefferson .....	Karl Geng .....	Open Pit .....	30 .....	.....	\$286,001.18
Masters Bros. Silica Sand Co.....	Pevely, Mo.....	Jefferson .....	R. D. Masters .....	Open Pit .....	4.7 .....	.....	
			O. F. Masters				
Pennsylvania Glass Sand Corp.....	Lewistown, Pa.....	St. Louis .....					
Pittsburgh Plate Glass Co.....	Crystal City, Mo.....	Jefferson .....	R. F. Barker.....	Tunnel.....	468.4 .....	.....	253,003.00
River Cement Co.....	St. Louis, Mo.....	Jefferson .....	A. W. Manley.....	Open Pit .....	50 .....	.....	16,660.00

TABLE NO. 2—SILICA SAND

Name of Operator	Number of Men Employed	Average Wage Per Day	Number of Days Operated	Tons Produced	Value of Production
Manley Sand Division, Martin Marietta Corp.....	11	\$22.48	261	146,046	\$362,649.51
Masters Bros. Silica Sand Corp.....	4	\$16.00 to \$21.00	280	14,963 Molding	\$34,414.00
Pittsburgh Plate Glass Sand Corp.....	14	\$33.74	317	286,812	530,443.00
River Cement Co.....	4	\$25.60	Approx. 15 Days.	23,030	21,884.00
Pennsylvania Glass Sand Corp.....	60	.....	.....	549,146	.....

**TABLE NO. 1—FATAL ACCIDENTS—IRON, LEAD AND COAL**

Name of Mine	Date of Injury	Name of Deceased	Name of Operator	Address of Operator
Pea Ridge.....	June 8, 1966.....	Robert Louis Webb.....	Meramec Mining Co.....	Sullivan, Mo.
Pea Ridge.....	July 8, 1966.....	Robert Frank Mesger.....	Meramec Mining Co.....	Sullivan, Mo.
Bevier Mine.....	October 21, 1966.....	Alfonso Howard.....	Peabody Coal Co.....	Macon, Missouri
Ozark Lead Co.....	November 3, 1966.....	William A. Macom.....	Ozark Lead Co.....	Ellington, Missouri



**TABLE NO. 2—FATAL ACCIDENTS—IRON, LEAD AND COAL**

Name of Deceased	Age	Married or Single	Number of Children	Occupation	Description of Accident
Robert Louis Webb . . . . .	22	Married	2	Underground Laborer . . . . .	He was working on a stage, in a stope raise from 1975 foot level. While tightening a nut on a clamp bolt, his wrench slipped causing him to lose his balance and fall backward to the floor through a 24-inch opening between the platform and wall.
Robert Frank Mesger . . . . .	28	Married	2	Hang-Up Man . . . . .	Mr. Mesger met his death by contacting a 270-volt D.C. trolley line while attempting to shift part of the load in a mine car.
Alfonso Howard . . . . .	59	Married	1	Mechanic . . . . .	Alfonso Howard was killed instantly in the garage of the Bevier Mine, by crushing injuries received from explosion-type forces emitted by rim flange failure of the inside wheel while in the act of removing the left rear dual wheels from a "Darby Trailer".
William A. Macom . . . . .	45	Married	2	Mine Foreman . . . . .	W. A. Macom and one other employee were checking the mine shaft for ice. They had removed some minor ice formations. At a level of 90' below the surface, a large (est. 25-50 lb.) block of ice fell an estimated 60'-70' and struck Mr. Macom on the right side of his head.

## MINE FATALITIES IN MISSOURI

Year	Lead and Zinc Mines	Coal Mines	Other Mines	Total
1900.....	52	19	.....	71
1901.....	41	15	.....	56
1902.....	14	10	.....	24
1903.....	13	17	.....	30
1904.....	30	11	.....	41
1905.....	49	11	.....	60
1906.....	58	16	.....	74
1907.....	42	8	3	53
1908.....	46	10	.....	56
1909.....	65	21	.....	86
1910.....	45	16	.....	61
1911.....	33	8	3	44
1912.....	28	19	2	49
1913.....	28	9	4	41
1914.....	22	19	2	43
1915.....	41	17	2	60
1916.....	35	6	2	43
1917.....	48	14	.....	62
1918.....	16	22	1	39
1919.....	11	10	1	22
1920.....	No Report	.....	.....	.....
1921.....	10	12	.....	22
1922.....	10	6	.....	16
1923.....	9	20	.....	29
1924.....	12	6	.....	18
1925.....	6	11	.....	17
1926.....	11	7	.....	18
1927.....	5	9	1	15
1928.....	8	11	2	21
1929.....	2	7	.....	9
1930.....	3	10	3	16
1931.....	1	6	2	9
1932.....	2	7	1	10
1933.....	.....	19	2	21
1934.....	1	13	.....	14
1935.....	2	9	.....	11
1936.....	3	16	1	20
1937.....	2	14	2	18
1938.....	5	7	2	14
1939.....	6	1	.....	7
1940.....	3	7	.....	10
1941.....	4	8	2	14
1942.....	6	.....	2	8
1943.....	4	7	2	13
1944.....	6	4	2	12
1945.....	6	5	2	13
1946.....	1	3	2	6

MINE FATALITIES IN MISSOURI—Continued

Year	Lead and Zinc Mines	Coal Mines	Other Mines	Total
1947.....	7	3	6	16
1948.....	2	1	4	7
1949.....	5	2	5	12
1950.....	2	1	4	7
1951.....	2	2	5	9
1952.....	3	3	4	10
1953.....	2			2
1954.....		1	1	2
1955.....	1		2	3
1956.....	1		1	2
1957.....	3	1	3	7
1958.....	2	1	3	6
1959.....	4			4
1960.....				0
1961.....	6	1		7
1962.....				0
1963.....				0
1964.....	3			3
1965.....	2			2
1966.....	1	1	2	4
TOTALS.....	891	520	88	1,499

## CAVES OF MISSOURI

### FROM MISSOURI CAVES ASSOCIATION

**Eddie Miller, Publicity Director**

The year was 1904 and the Worlds Fair was in progress in St. Louis when some 75 miles west near the little town of Leasburg something new in the way of tourists attractions was opened for the first time in Missouri. This new attraction was Onondaga Cave, the first cave to be developed as a tourist attraction in the state. In later years more caves were opened until at the present time there are 26 state approved caves open to the public in Missouri attracting approximately two million visitors annually as there is some one hundred and fifty commercialized caves in the fifty states, one-sixth of them are in Missouri making it the number one cave state. The second place state in the amount of commercially operated caves is Pennsylvania with eleven. Many of the caves in Missouri are noted for beautiful natural colors and massive onyx formations, cave enthusiasts rate them among the most beautiful in the nation. Many also have concrete walks, electric lights, and most feature guided tours. Thousands of school children from many states visit the caves each year as a part of their educational program. All of Missouri's Caves are different in varying ways, some have special features such as the underground railroad in Marvel Cave near Branson—A natural underground auditorium in Fantastic Caverns near Springfield, said to be capable of accommodating ten thousand people—Discoveries, legend and rumor indicate that pre-historic man at one time used Stark Caverns near Eldon as a protective cover against raids of marauders and rigors of weather, and by the Indians of a later era.—A natural harp of Stalactites in Fairy Cave near Reed Springs produces beautiful musical tones when tapped.—The angels shower bath consisting of numerous crystal clear streams of water falling from a group of stalactites into a huge onyx bowl create an unforgettable scene in Ozark Caverns near Osage Beach, Mo.—Indian skeletons said to be sixteen hundred years old may be viewed in Indian Burial Cave also located near Osage Beach. On a tour through Meramec Caverns near Stanton visitors are conducted through the Jesse James section of the cave said to have been the hideout of this famous outlaw and his band. This section of the cave could only be entered by a secret underwater entrance until a lake blocking the entrance was drained and walk-ways were constructed. The natural underground Bridal Chapel in Bridal Cave near Camdenton on the Lake of the Ozarks has been the scene



in recent years of more than 400 weddings. The legend that has passed down through the years credits the Indians with believing that couples married in the cave would be blessed with a happy and fruitful life. Visitors to Mark Twain Cave near Hannibal are shown the sections of the cave where Tom Sawyer and Becky Thatcher were lost in Samuel Clemmons' famous book, "The Adventures of Tom Sawyer."—Jacobs Cave near Versailles features a beautiful crystal stream flowing through the cave reflecting in marvelous secondary detail the ceiling and walls in seemingly fathomless depth.

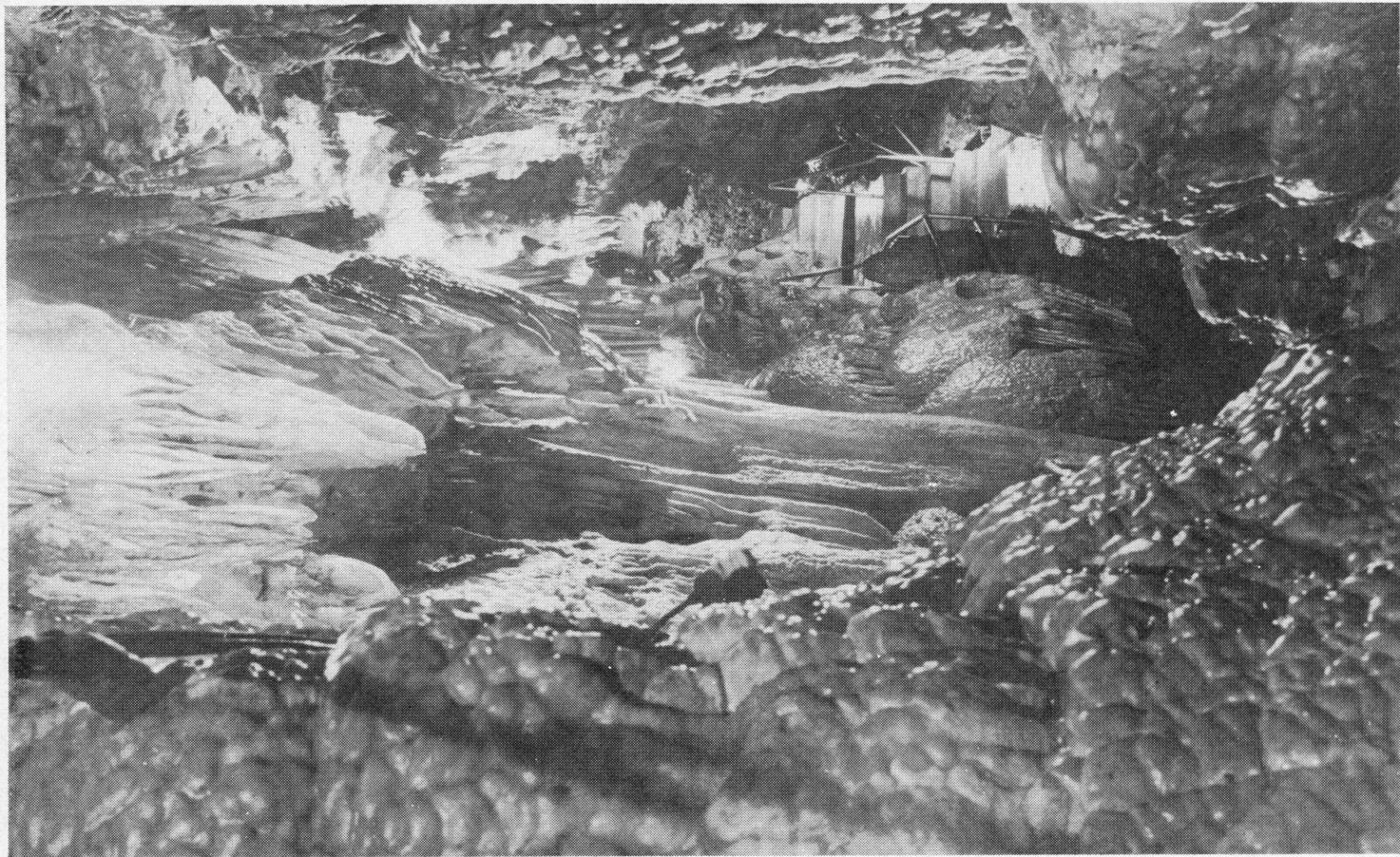
## CAVES

An act of the 63rd General Assembly authorized and directed the **DIVISION OF MINE INSPECTION** to inspect all Caves held open to the public and to require every Cave owner, operator or agent to provide necessary safety guard rails, bridges, ladders, entrances, platforms, walkways, safety barriers, rails, paths and other safety measures in and around any such Cave before it may be opened to the public and to file a complete and true plan map of such Cave with the **DIVISION OF MINE INSPECTION**.

It shall be the duty of the **DIVISION OF MINE INSPECTION** to inspect such Caves at least once a year. The annual inspection fee will be thirty-five dollars (\$35.00).

### CAVES APPROVED 1966

County	Name of Cave	Name of Operator	Address
Barry.....	CRYSTAL CAVERNS.....	Mrs. John McFarlin.....	Cassville, Mo.
Boone.....	BOONE CAVE.....	Pete Christus.....	Boonville, Mo.
Camden.....	MYSTIC RIVER CAVE.....	Richard M. Kinne.....	Camdenton, Mo.
Camden.....	OZARK CAVERNS.....	H. Dwight and Rosetta Weaver.....	Osage Beach, Mo.
Camden.....	BRIDAL CAVE.....	Bridal Cave Development Co., Inc.....	Camdenton, Mo.
Christian.....	CIVIL WAR CAVE.....	Smallens Civil War Cave, Inc.....	Ozark, Mo.
Crawford.....	ONONDAGO.....	Crawford County Caverns Co., Inc.....	Leasburg, Mo.
Douglas.....	HONEY BRANCH.....	L. R. Swearingin.....	Elkhead, Mo.
Franklin.....	FISHER'S CAVE.....	Edward D. Allred.....	Sullivan, Mo.
Franklin.....	MERAMEC CAVERNS.....	Ozark Cave Association, Inc.....	Stanton, Mo.
Greene.....	CRYSTAL CAVE.....	The Mann Sisters.....	Springfield, Mo.
Greene.....	FANTASTIC CAVERNS.....	Fred L. Veregge.....	Springfield, Mo.
Jackson.....	.....	Imco Container Co.....	Kansas City, Mo.
McDonald.....	TRUITT'S CAVE.....	S. H. Robbins.....	Lanagan, Mo.
McDonald.....	OZARK WONDER CAVE.....	Mrs. Arnold Vance.....	Noel, Mo.
McDonald.....	BLUFF DWELLERS CAVE.....	The Browning Family.....	Noel, Mo.
Marion.....	MARK TWAIN CAVE.....	A. K. Cameron.....	Hannibal, Mo.
Marion.....	CAMERON CAVE.....	A. K. Cameron.....	Hannibal, Mo.
Miller.....	INDIAN BURIAL CAVE.....	Lee Mace.....	Osage Beach, Mo.
Miller.....	STARK'S CAVERN.....	Harvey H. Fry.....	Eldon, Mo.
Morgan.....	JACOB'S CAVE.....	Mrs. Frances Castle.....	Versailles, Mo.
Pulaski.....	INDIAN CAVE.....	C. W. Allen.....	Waynesville, Mo.
Shannon.....	ROUND SPRING CAVERN.....	Mr. and Mrs. C. M. Patterson.....	Round Springs, Mo.
Stone.....	FAIRY CAVE.....	Waldo Powell.....	Reed Springs, Mo.
Stone.....	MARVEL CAVE.....	Marvel Cave Association, Inc.....	Branson, Mo.
Stone.....	.....	Ozark Paradise Village Co.....	Branson, Mo.
Wayne.....	REBEL CAVE.....	Aubrey Ward.....	Silva, Mo.



Just inside an entrance of one of Missouri's Caves. Breathtakingly beautiful formations reward the explorer.